

ABSTRACT**OPTICAL FIBER WITH HOLES**

5 The invention relates to optical fibers incorporating cavities in their structure.

This is an optical fiber comprising: a central core (1); a first annular region (ra) surrounding the central core (1); a second annular region (rb) surrounding the first annular region (ra) and comprising medium-size cavities 10 (3) the cross section whereof remains strictly between a given first threshold and a given second threshold strictly higher than the first threshold; a third annular region (rc) surrounding the second annular region (rb) and comprising large cavities (4) the cross section whereof remains strictly above the second threshold; in a cross section of the optical fiber, any radius that 15 goes from the center of the core towards the exterior of the optical fiber encounters at least either a medium-size cavity (3) in the second annular region (rb) or a large cavity (4) in the third annular region (rc); and the average distance between the outer perimeter (Ca) of the second annular region (rb) and the inner perimeter (Cb) of the third annular region (rc) is less 20 than half the average dimension of a large cavity (4).

Fig. 10